

Commonly Asked Questions

Wouldn't it be cheaper to build fewer ships with more missile tubes?

The Navy conducted a detailed force structure analysis during the requirements development process.

Reduced SSBN force number options did not meet at-sea and nuclear employment requirements, increased risk for force survivability, and limited flexibility to respond to an uncertain strategic future.

A 12-ship, 16-missile tube SSBN force has sufficient, not excessive, flexibility and capacity and satisfies national strategic deterrent requirements in a cost efficient manner.

If we need 12 submarines, why is it acceptable to drop to 10 for so many years?

As the Ohio class retires and Columbia SSBNs join the fleet there are no major SSBN overhauls planned. Operating with 10 SSBNs introduces additional operational risk but the Navy can meet its requirements with a force of 10 SSBNs for this limited period of time.

As Columbia SSBNs begin mid-life overhauls in 2049, a minimum of 12 SSBNs will be required to meet operational requirements while the class conducts planned shipyard maintenance.

Why not build an SSBN with a Virginia class hull and a missile compartment insert? Or, why not build new Ohio class SSBNs since they were such an effective platform?

A formal Analysis of Alternatives (AoA) considered both a Virginia class submarine with an added missile compartment and Ohio class production restart to fulfill the SSBN mission.

An SSBN based on a Virginia hull would require more than 12 ships to meet operational requirements, require refueling, increase personnel costs, and increase vulnerability to projected threats through the 2080s. A Virginia class based design would lead to a more expensive and less capable SSBN class.

Similarly, rebuilding Ohio class SSBNs would save on design costs, but would not have sufficient stealth to stay viable out to the 2080s, and construction of more Ohio class SSBNs would not be able to take advantage of efficiencies of modern construction techniques.

COLUMBIA leverages 50+ years of SSBN design and operational experience, the Columbia SSBN is a cost-effective recapitalization of our Nation's Sea-Based Strategic Deterrent.



OPNAV N97

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Columbia Class SSBN

**21st Century
Capability in a
Survivable Platform at
Responsible Cost**



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Strategic Deterrence is a National Imperative

"A robust, flexible, and survivable U.S. nuclear arsenal underpins the U.S. ability to deploy conventional forces worldwide; provides the Commander-in-Chief with credible response options to strengthen deterrence; and supports U.S. nonproliferation goals by extending deterrence to allies, thereby dissuading them from developing their own nuclear weapons."

- **Secretary of Defense Mattis** (Feb 2017)

U.S. strategic deterrence promotes global stability

- Prevents coercion by threat of nuclear attack
- Prevents proliferation of nuclear weapons
 - Assures non-nuclear allies and partners we will respond if attacked
 - Extended deterrence

SSBN force is survivable leg of U.S. nuclear triad

- A survivable deterrent can impose unacceptable consequences even after being attacked
- SSBNs will be responsible for ~70% of deployed nuclear warheads under the New START
- 2010 Nuclear Posture Review confirmed the enduring requirements for a survivable sea-based deterrent

Effective sea-based strategic deterrent

- SSBNs are undetectable when submerged.
- Provide adequate range to allow operation far from adversaries in broad ocean areas
- Designed with state-of-the-art stealth to remain undetectable into the 2080s



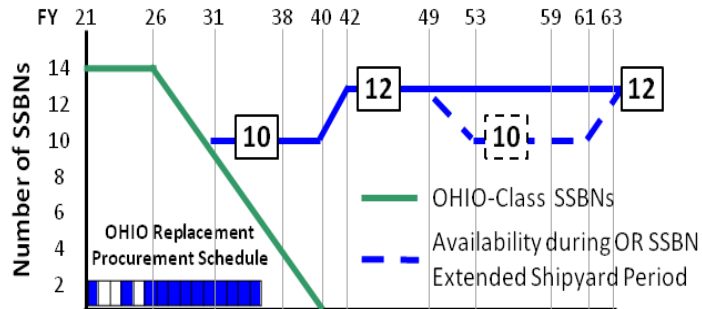
SSBNs Provide the Nation's Survivable Nuclear Deterrent

Columbia provides 21st Century Capability...

Current Ohio class SSBNs are reaching end of life

- Commissioned between 1984-97, their lifetime has already been extended 40% (from 30 to an unprecedented 42 years)
- Force of at least 12 Columbia SSBNs needed to meet operational requirement of 10 operational SSBNs
- Lead Columbia SSBN construction must begin in 2021 to commence its first Strategic Patrol in 2031
- Procurement timeline meets U.S. Strategic Command requirements with moderate operational risk during the transition period

SSBN Force Structure



Columbia SSBNs will provide the Nation's survivable nuclear deterrent through the 2080s

- 12 SSBNs, each with 16 TRIDENT II (D5) missiles and a 42-year service life
- Sufficient survivability to address projected future threats into the 2080s
- Life cycle design to ensure 12 ship operational and material availability meets at-sea requirements
- Leverages Virginia Class submarine capabilities

"Our nuclear deterrent is the nation's top military priority."

Chairman's (General Dumford) Jul 2015

...in an Survivable Platform, at Responsible Cost

SSBN procurement is a significant investment made once every 40 years; however, the Navy has aggressively worked to reduce costs

- Nuclear reactor that will not require refueling
- 12 Columbia SSBNs provide same at-sea presence as 14 Ohio SSBNs achieving a 22% reduction in life of ship cost since 2010.
- Columbia re-uses and re-hosts current submarine systems to the maximum extent possible
- Columbia will build on the success of the Virginia class construction program through collaboration with industry to leverage modular construction techniques, cost reduction initiatives and other shipbuilding efforts



The Common Missile Compartment (CMC) for Columbia and UK Dreadnought SSBN continues 50 years of US and UK strategic cooperation

- CMC efforts are critical to both US and UK strategic deterrence
- CMC designed under US/UK cost-share agreement
- The United States is committed to meet UK need date